Supplemental Information

Competitive Acquisition of Cooperative Agreement for ISS National Laboratory Management Entity

The information provided below supplements prior postings at the official procurement web site in specific areas of high interest to potential bidders. Any additional questions related to this supplemental information should be directed to the procurement website for formal written response.

Link to Contract Study: ISS National Laboratory Reference Model:

This report issued on October 12, 2010 and was placed in the public domain under the ISS National Laboratory portion of the ISS Research and Technology web site. This public location was chosen because it represents the highest volume web site for information related to the status of ISS utilization. When the formal CAN procurement site was established in preparation for the December 2010 Public Day, a hotlink to the ISS Research and Technology site was included at the procurement website. This link is repeated below.

http://www.nasa.gov/mission_pages/station/research/nlab/index.html

December 10, 2010 ISS National Laboratory Public Day:

This opportunity for exchange of ideas and input to the draft CAN was termed a "Public Day" because it was anticipated that attendees would include not-for-profit entities in addition to the for-profit entities characteristically in attendance at an "industry day". Since the statutory requirement[1] is to enter into an agreement with a not-for-profit entity, the term "public day" was determined to be most appropriate.

NASA initially determined pre-registration was necessary because it was not possible to reliably predict the number of attendees at the Public Day and the NASA headquarters auditorium had limited seating. As December 10 approached, additional attendees requested to participate and it became clear there would be available seating. At that point it was determined to accept all interested attendees in order to achieve the widest possible participation within room accommodations and attendance was unconstrained.

A Special Notice to conduct the December 10, 2010 Public Day was first posted to Federal Business Opportunities on October 29, 2010 (42 days in advance).

[1] NASA AUTHORIZATION ACT OF 2010 (P.L. 111-267), SEC. 504. MANAGEMENT OF THE ISS NATIONAL LABORATORY.

Schedule for Award and Phase-In of Cooperative Agreement:

As stated at the Public Day, NASA plans to award the cooperative agreement no earlier than May 2011. This will allow for a phase-in of the not-for-profit entity by the end of USG fiscal year 2011 (i.e., October 2011). It is expected that the not-for-profit entity will be fully staffed and operating by the end of FY-2011. Use of the ISS as a national laboratory will be strongly dependent on commercial cargo resupply (CRS) services to and from the ISS. While the ISS Program is budgeting for upmass specifically for national laboratory usage, the commercial transportation systems (i.e., Space X *Falcon 9/Dragon* and Orbital Sciences *Taurus II/Cygnus*) remain in the demonstration phase at this time.[2] Therefore, it is reasonable to expect that full on-orbit operations as a national laboratory will be paced by the final availability and flight schedule associated with CRS services. This transition to routine commercial cargo services is anticipated to stabilize at a consistent flight rate during the 2012-2013 timeframe. At that point, the national laboratory component of ISS utilization is projected to operate at full capacity.

ISS National Laboratory Entity Strategy/Objectives Related to "Human Life Science":

As stated in the draft Cooperative Agreement Notice (CAN Section 2.2.3), "Identify the unique capabilities of the ISS that provide breakthrough opportunities for non-NASA uses in science and applications, technology development, and STEM education, including but not limited to *human health, biological sciences, biotechnology, biological research*, energy and biofuels, physical and materials science and development, engineering research and technology development, and Earth and space imaging and observations." [italics added for emphasis]

NASA will continue to manage those missions that meet the needs of NASA's primary mission in space exploration. Specifically, these NASA missions include: (1) human biomedical research necessary to extend human operations beyond low-Earth orbit, and: (2) space systems technology research, development, test and evaluation (RDT&E) necessary to field the next generation in spacecraft technologies and systems needed to achieve NASA space exploration objectives.

The intent is to clearly distinguish the NASA mission from the missions of other USG agencies and private firms. NASA currently has an internal Human Research Program (HRP) that works closely with an external National Space Biomedical Research Institute (NSBRI). These organizations will continue to conduct NASA's mission in human biomedical research necessary to extend the human presence in space. Likewise, NASA currently has an internal Office of the Chief Technologist responsible for coordinating

[2] As pointed out in response to a specific question during the public day, downmass is not considering a limiting resource provided the commercial service is successfully demonstrated.

RDT&E of spacecraft technologies. This organization will continue to coordinate NASA's mission in space technology development.

Consistent with the seminal statutory definition[3] of the ISS as a "national laboratory", a primary mission of this cooperative agreement will be "…to increase the utilization of the ISS by other Federal entities and the private sector…", as opposed to duplicating management of NASA missions.

Publications on Microgravity Research Results:

Numerous investigators worldwide have conducted biological, chemical and physical sciences research under microgravity conditions over the past several decades utilizing Skylab, Mir, Space Shuttle, ISS and a variety of ground-based and suborbital assets. The publications record is diverse and distributed across many sources – no two searches will reveal exactly the same body of citations, much the same as in any new field of research.

One such search led to identification of five specific phenomenological findings of noteworthy significance, along with bibliographic references in peer-reviewed journals. This search has been documented in a review paper scheduled for presentation on January 4, 2011 at the 49th AIAA Aerospace Sciences Meeting, 25th Symposium on Gravity-Related Phenomena in Space Exploration (GPSE). The paper is titled, "Positioning the International Space Station for the Era of Utilization", and the author is Mark Uhran, Assistant Associate Administrator for the ISS Program. Consistent with established policy, AIAA requests that the author not distribute the paper prior to presentation. Nonetheless, since this is a work of the U.S. government it can be distributed for governmental purposes. Therefore, the paper will be made available in the procurement library following public presentation.

Entities interested in competing for this cooperative agreement are encouraged to conduct their own reviews of the open literature and summarize conclusions in their respective proposals.

In the case of ISS, the Program Scientist has requested that all federally funded research be published in the public domain and identified for inclusion in the ISS publications database. For those investigators that have elected to cooperate to date, the results can be found at the following link:

http://www.nasa.gov/mission_pages/station/research/experiments/Publications.html

[3] NASA Authorization Act of 2005 (Public Law 109-155), Section 507 National Laboratory Designation.